No. 7700052

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Purdue University Agricultural Experiment Station and USDA, ARS

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Sullivan'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 14th *day of* June *in the year of our Lord one thousand nine hundred and* seventy-seven

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(1-76)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
PLANT VARIETY PROTECTION OFFICE
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
	Sullivan	PV NUMBER 7700052
2. KIND NAME	3. GENUS AND SPECIES NAME	FILING DATE 3-10-77 / TIME 10:00 A.M. P.M.
Wheat	Triticum aestivum	FEE RECEIVED $250.00 / $250.00 / $250.00 / DATE 3-10-77 / 3-18-77 / 6-13-77
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETERMINATION	
Gramineae	February 1, 1977	
6. NAME OF APPLICANT(S)	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	8. TELEPHONE AREA CODE AND NUMBER
Purdue University Agricultural Experiment Station and USDA - ARS	Agricultural Administration Building Purdue University West Lafayette, Indiana 47907 Washington, D.C. 20250	317-749-6005

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:
Dr. B. J. Liska, Director
Agricultural Experiment Station
Purdue University
West Lafayette, Indiana 47907

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [x] **13A.** Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [x] **13B.** Exhibit B, Novelty Statement.
- [x] **13C.** Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [x] **13D.** Exhibit D, Additional Description of the Variety.

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [x] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [x] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [x] FOUNDATION [x] REGISTERED [x] CERTIFIED

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? [x] YES [ ] NO

16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

00001

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

3/7/77
(DATE)

(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

12 A. Exhibit A. Origin and Breeding History of Sullivan CI 17684

Sullivan was developed at the Purdue University Agricultural Experiment Station in cooperation with the Agricultural Research Service, United States Department of Agriculture.

The new variety is essentially an Oasis type but about two days earlier in heading and with added moderate resistance to the take-all root-rot disease incited by Gaeumannomyces graminis (Sacc.) Arx & Olivier.

The parentage of Sullivan is:* Atr 71 sib*2/6/Abe sib/5/Atr 71 type/4/Atr*3/3/Ribox/2/Riley*2/Riley 67. Following the final backcross, plant selections were in the F_1 and F_2 generations of selfing. Selections were made among lines in the F_3 and F_4 generations. Breeders seed in 1976 was in the F_9 generation of selfing following the final backcross.

* See correction on following page

Sullivan has been similar to Oasis in resistance to the Hessian fly (H_5 gene), resistance to leaf rust (Transfer source), and resistance to the Septoria leaf blotch disease (Bulgaria 88 source). In nursery tests at the adult plant stage it has been similar to Oasis in resistances to powdery mildew, to loose smut, and to several races of Puccinia graminis.

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WHEAT APPLICATION 7700052, 'SULLIVAN'

Correction in Exhibit 13A

The Bulgaria 88 parent was omitted at the end of the parentage in the original application and the Riley 67 sib and Riley sib were reversed. The correct parentage of Sullivan is:

Arthur 71 sib*2/7/Abe sib/6/Arthur 71 type/5/Arthur*3/4/Ribox/3/Riley 67 sib*2/2/Riley sib/Bulgaria 88

77-52

WHEAT APPLICATION 7700052, 'SULLIVAN'

Ammendment to Exhibit 13A

Before naming, Sullivan was tested as Purdue 68283A1-11. It appeared in the 1976 crop Uniform Eastern Soft Wheat Regional Nursery under this number.

Selection:

Plants were tested for resistance to Septoria tritici at each step in the crossing sequence to verify that resistant plants were used as parents. Following the final backcross, selection for resistance to Septoria tritici and to leaf rust was made among F_1 plants. Selection in the F_2 generation was based on resistance to leaf rust and to Septoria tritici. Selection among lines in F_3 was based on single plot yield trials. Selection among lines in F_4 was based on resistance to leaf rust, to powdery mildew, and to Hessian fly.

Yield potential, straw strength, height, maturity, and winterhardiness were evaluated in replicated nursery yield trials without further selection in the F_5 to F_9 generations, 1972-1976.

Stability:

Sullivan has been stable and true breeding from natural self-pollination for resistance to diseases and to Hessian fly, maturity, height, and other observable characters, from F_4 through F_9 generations.

Off-Types:

There have been no problem off-types in the Breeder seed of Sullivan. The Indiana Crop Improvement Association found no off-types during their official inspection of the field of Breeder Seed for seed certification in 1976.

12 B. Exhibit B. Data indicative of Novelty

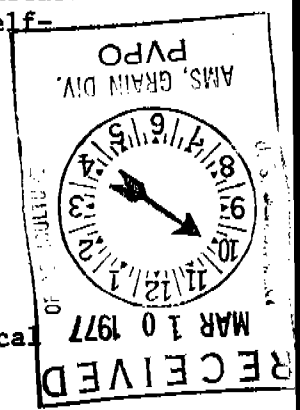
Sullivan is most nearly like Oasis. It is novel in having nearly all the characteristics of Oasis but is 2 days earlier in heading (Tables 1 and 2). Sullivan is novel from Oasis, Arthur, Arthur 71, Abe and Beau in its moderate resistance to the take-all root-rot disease (Table 3).

Sullivan is novel from Arthur, Arthur 71, Abe, Beau, and Downy in resistance to the Septoria leaf blotch disease derived from Bulgaria 88. Oasis is the only variety other than Sullivan with this type of resistance to Septoria tritici.

Sullivan is most like Oasis in most characters.

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.



ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give (1), the genealogy, including public and commerical varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication. (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.

14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-6
(2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Purdue University Agric. Exp. Station and USDA-ARS

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
Agricultural Administration Building
West Lafayette, Indiana 47907

FOR OFFICIAL USE ONLY
PVPO NUMBER 7700052
VARIETY NAME OR TEMPORARY DESIGNATION
SULLIVAN
CI 17684

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:

[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[2][2][5] FIRST FLOWERING [2][3][2] LAST FLOWERING

4. MATURITY (*50% Flowering*):

[0][1] NO. OF DAYS *EARLIER* THAN ..... [1] 1 = ARTHUR 2 = SCOUT 3 = CHRIS

[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (*From soil level to top of head*):

[0][9][0] CM. HIGH

[ ][ ] CM. TALLER THAN ..... [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS

[0][1] CM. SHORTER THAN ..... [1] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):

[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

8. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom: 1 = ABSENT 2 = PRESENT

[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

[1] Internodes: 1 = HOLLOW 2 = SOLID

[0][4] NO. OF NODES (*Originating from node above ground*)

[1][7] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*) _____

[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED

[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[1][0] MM. LEAF WIDTH (*First leaf below flag leaf*)

[1][8] CM. LEAF LENGTH (*First leaf below flag leaf*):

00006

12D. Exhibit D. Botanical Description of Sullivan, CI 17684

Sullivan is a common soft red winter wheat, Triticum aestivum L.

Sullivan is similar to Oasis, Arthur 71 and Arthur in winterhardiness.

Sullivan has been about two days earlier in heading than Oasis and about one earlier than Arthur at Lafayette, Indiana. From October 1 plantings at Lafayette, it begins flowering in about 225 days and completes flowering in about 7 days. It is recognized that varieties may respond differently to seasonal variations in temperature and planting date.

Sullivan has averaged about 2 cm shorter than Oasis and 1 cm shorter than Arthur (Tables 1 and 2). In these comparisons it has averaged 90 cm in height.

Sullivan is green at booting similar to Oasis and Arthur. The anther color is yellow.

Anthocyanin is typically absent in the stem but may show slight development when infected by Barley Yellow Dwarf virus. The internodes are hollow. A slight waxy bloom is commonly present on the stems. Lodging resistance is intermediate like Oasis. It is resistant to node-bending described in Agron. J. 49:518-519, 1957.

The auricles are hairy (commonly few) and generally lacking in anthocyanin.

Leaves are a medium green on young plants and at booting. Flag leaves are mostly recurved at booting with some (about 25% inclined). Flag leaves are generally flat (not twisted). A slight waxy bloom is present on the flag leaf sheath.

Spikes are intermediate to lax, similar to Oasis and Arthur, and strap to tapering in shape. Spikes are similar to Oasis and Arthur in size averaging about 7 cm in length, about 11 mm in spike face width, and about 9 mm in spike edge width. Spike size varies somewhat with stand and production levels. Spikes are awnletted with the longest awnlet averaging about 1.5 cm in length. Spikes are yellow and generally nodding at the combine-ripe stage.

The glumes of Sullivan are similar to those of Oasis and Arthur. They are mid-long, mid-wide and yellow at maturity. Shoulders are rounded (to square) and mid-wide. Beaks are mid-wide, obtuse and 0.5 to 1.5 mm long.

The coleoptile color is a light purple. Color frequently occurs as a linear band covering only part of the coleoptile as in Oasis and Arthur.

Seedling anthocyanin has not occurred in our observations. Juvenile plant growth is semi-erect.

Kernel characteristics are similar to Arthur and Oasis. Kernels are

red in color and ovate in shape with rounded cheeks. The brush is medium in size and mid-long. The embryo is large (to medium) in size. Kernels average about 6 mm in length, 3 mm in width, and 35 gm per 1000.

Sullivan has been resistant to stem rust races 15B, 29, 38 and 56 in field nursery tests as has Oasis, Arthur, Arthur 71 and Abe. The new variety has resistance to leaf rust derived from Transfer (LR9) as well as other resistances derived from Arthur, Arthur 71 and Abe sib. It has been resistant to leaf rust races 5, 15, 35, 76, 104 and UN9 in field nursery trials at Lafayette, Indiana. There are some new naturally occurring biotypes of leaf rust observed in 1976 which can attack Sullivan, Oasis, Arthur and other Arthur type wheats. It is not yet known whether the new biotypes will develop virulences for specific varieties of the Arthur type.

Sullivan possesses the single gene dominant resistance to Septoria tritici derived from Bulgaria 88. Oasis is the only other commercial variety with this resistance. It has provided protection from Septoria tritici in the field in Indiana.

Sullivan has been free from loose smut and presumably carries resistance derived from Riley, Arthur, Arthur 71 or Abe sib parents.

Sullivan was resistant to powdery mildew during its development as was Oasis, Arthur, Arthur 71 and Abe. New naturally occurring biotypes of powdery mildew were observed in Indiana in 1976 which can infect Sullivan, Oasis, Arthur 71, Abe, and Arthur. It is not yet known whether the new biotypes will develop virulences specific for one or more of these varieties.

Sullivan possesses a valuable moderate resistance to the take-all root-rot disease incited by Gaeumannomyces graminis (Sacc.) Arx & Olivier (Table 3). Sullivan is unique from Oasis, Arthur, Arthur 71, Abe and Beau (all Arthur types) in this resistance.

Sullivan has been analyzed for milling at baking quality at the Soft Wheat Quality Laboratory, Wooster, Ohio. It has been rated good in milling quality and good in baking quality in comparison to the Arthur standard. It has been as good or better than Arthur in these comparisons.

Sullivan has been similar to Oasis in yield (Tables 1 and 2).

Table 1. Summary of performance of Sullivan in nursery plots.

	Yield (bu/A)	Test Weight (lbs/bu)	Straw Score (0-9)*	Height (inches)	Headed May
		5-Test Av. (1972-1976)			
Sullivan	64.9	59.9	4.6	36	18
Arthur	65.7	59.9	4.4	37	19
Abe	63.2	59.7	4.2	36	19
		4-Test Av. (1973-1976)			
Sullivan	60.1	59.2	4.6	35	17
Oasis	64.4	59.3	4.8	37	19
Arthur 71	59.0	59.4	4.5	36	19
Arthur	61.5	59.4	4.5	36	18
Abe	60.8	59.3	4.3	34	19
Beau	62.1	59.9	2.8	33	19

*0 = erect; 9 = lodged flat.

Table 2. Performance of Sullivan in overstate field plots in Indiana.

	Yield (bu/A)	Test Weight (lbs/bu)	Lodging (%)	Height (inches)	Winter Killing (%)
		5-Test Av. (1975-1976)*			
Sullivan	54.5	59.1	6	36	13
Oasis	55.6	58.9	8	37	13
Arthur 71	54.3	59.3	8	37	15
Arthur	58.5	59.8	4	35	15
Abe	58.4	59.2	6	35	14
Beau	58.3	59.7	1	36	12

*Data from K. M. Day and O. W. Luetkemeier for 1 location in 1975 and 3 locations (4 tests) in 1976.

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MAR 10 1977

FORM GR-470-6 (REVERSE)

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLET 3 = AWNLETED 4 = AWNED

[2] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[0][7] CM. LENGTH [1][1] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[1] 1 Glabrous 2 Pubescent

[3] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[1] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[3] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[4] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0][6] MM. LENGTH [0][3] MM. WIDTH [3][5] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[2] STEM RUST (Races) 15B,29,38, 56 (adult plant)

[2] LEAF RUST (Races) 5,15,35,76,104 UN9

[0] STRIPE RUST (Races) _____

[2] LOOSE SMUT

[2] POWDERY MILDEW

[0] BUNT

[2] OTHER (Specify) Septoria tritici

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY [1] APHID (Bydv.) [0] GREEN BUG [1] CEREAL LEAF BEETLE

[ ] OTHER (Specify) _____

HESSIAN FLY RACES: [2] GP [2] A [2] B [2] C [2] D [2] E [2] F [2] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Oasis	Seed size	Arthur 71
Leaf size	Oasis	Seed shape	Oasis
Leaf color	Oasis	Coleoptile elongation	Oasis
Leaf carriage	Oasis	Seedling pigmentation	Oasis

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

00007

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

Table 3. Summary of Root Rot Trials of 1976

A. Vincennes (soil naturally infested with Gaeumannomyces graminis)

Visual estimate[a] of disease severity, 8' rows

	Sullivan	Oasis	Arthur	Arthur 71	Abe	Beau
3-25-76	5.1	6.7	6.1	7.0	6.8	7.0
5-13-76	5.3	7.5	7.5	7.9	7.7	7.3

Visual estimate of % white heads in yield plots[b] just before harvest

	Sullivan	Oasis	Abe	Arthur 71	Beau
+N[c]	25	38	42	25	58
-N	35	30	42	60	45

Yield (bu/A)

	Sullivan	Oasis	Abe	Arthur 71	Beau
+N	32.0	30.9	25.5	29.3	27.9
-N	28.2	21.6	26.7	26.0	25.6

a) 0 = healthy, 10 = dead

b) Plots sown 9-28-75; 2 replications; two 10' rows harvested

c) 60 lb N/A top dress in spring applied to "+N" plots.
No N applied to "-N" plots.

B. Lafayette (soil artificially infested with G. graminis in infested oat seed, mixed 1:1 with wheat seed)

Visual estimate[a] of disease severity

	Sullivan	Abe	Arthur 71
4-15-76	6.4	7.4	6.4

a) 0 = healthy, 10 = dead

77-52

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL MARKETING SERVICE

14th and Independence Avenue, Rm. 1634

WASHINGTON, D.C. 20250

PLANT VARIETY PROTECTION OFFICE

Gentlemen:

Subject: Application No. 7700052
Variety and Kind - 'Sullivan'- Wheat

As provided in section 83(a) of the Plant Variety Protection Act, 7 U.S.C. 2321, we request that the Certificate on the above variety be issued with a notation on each Certificate that the right to exclude others from selling, offering for sale, reproducing, importing or exporting the variety covered by this Certificate, or using it in producing a hybrid or different variety is waived.

It has been agreed that the certificate should be issued in the name(s) of:

Purdue University Agricultural Experiment Station

and the United States Department of Agriculture

4/25
(Date)

(Signature)

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